

3. On new and little-known *Mantidæ*.

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(Plates XXXV. &amp; XXXVI.)

## Genus DEIPHOBÆ, Stål.

M. Stål has recently<sup>1</sup> made the *Fischeria ocellata*, Sauss. (the nearest ally of *F. laticeps*), the type of a new genus, *Deiphobæ*, and restricted, rightly as it seems to me, the name *Fischeria* to *Fischeria bætica* and its allies, species in which, as in *Eremiophila*, structures ancillary to the ovipositor<sup>2</sup> are developed upon the two terminal ventral segments of the abdomen. Though *F. laticeps* differs from *Deiphobæ ocellata* in the form of the eyes (which are compressed and produced straight outwards in the form of blunt cones), in its long, stout, and subfoliaceous cerci (which extend far beyond the extremity of the abdomen), and in its more elongated and slenderer body, it yet resembles that species so closely in all other characters that its separation seems unwarrantable.

DEIPHOBÆ LATICEPS. (Plate XXXV. ♂ ♀.)

*Fischeria laticeps*, Wood-Mason, Ann. & Mag. Nat. Hist. 1876, 4th ser. vol. xviii. p. 337, ♂; *op. cit.* 1878, 5th ser. vol. i. p. 144, ♀.

*Hab.* ♀ ♀, Bangalore district, Mysore; ♂, Sheargaon, Kolapur State, India.

The typical specimens are in the Indian Museum, Calcutta.

## HIERODULA (RHOMBODERA) TECTIFORMIS.

*Rh. tectiformis*, Saussure, Mém. Orthopt. tom. i. fasc. 3, p. 216, pl. v. fig. 19, ♀.

In all the numerous specimens of this species which I have examined the basal or superior angle of the facial shield is produced into a small projecting spiniform tubercle—a point of structure not mentioned by M. de Saussure in his description.

The first branch of the discoidal vein of the tegmina terminates at the sutural margin in males in two, in females in three branchlets.

*Hab.* I have a ♂ from Jalra-patan, captured by Mr. Cecil Templeton of the Indian Topographical Survey, a ♀ from Sahibganj by myself, and a ♂ from Doomarkoonda in the same district, and a ♀ nymph from Sambalpur by Mr. Valentine Ball.

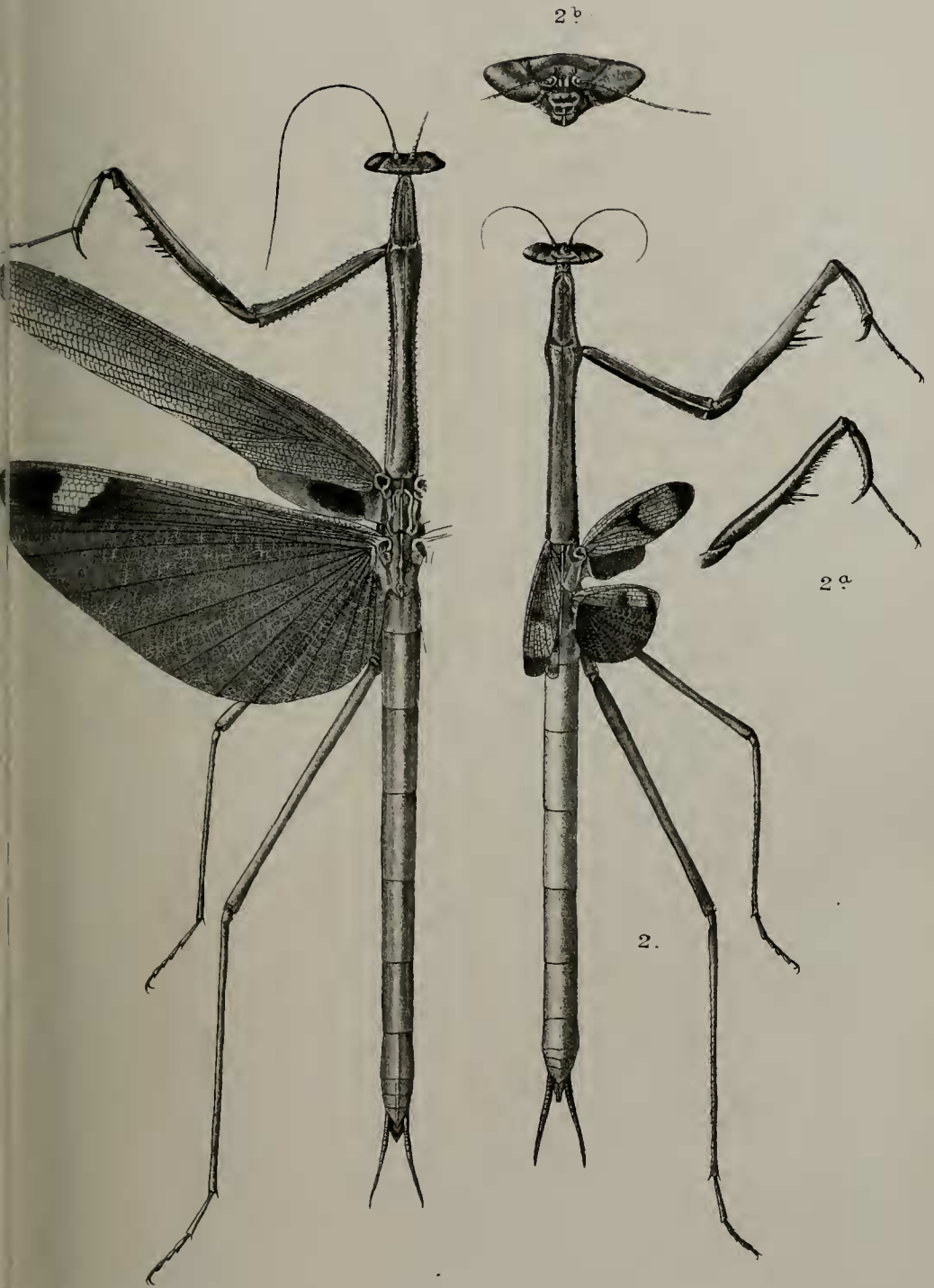
*Obs.* The lamellar fore margin of the tegmina is entire.

## HIERODULA (RHOMBODERA) BUTLERI, n. sp. (Plate XXXVI. figs. 3, 3 a, 3 b.)

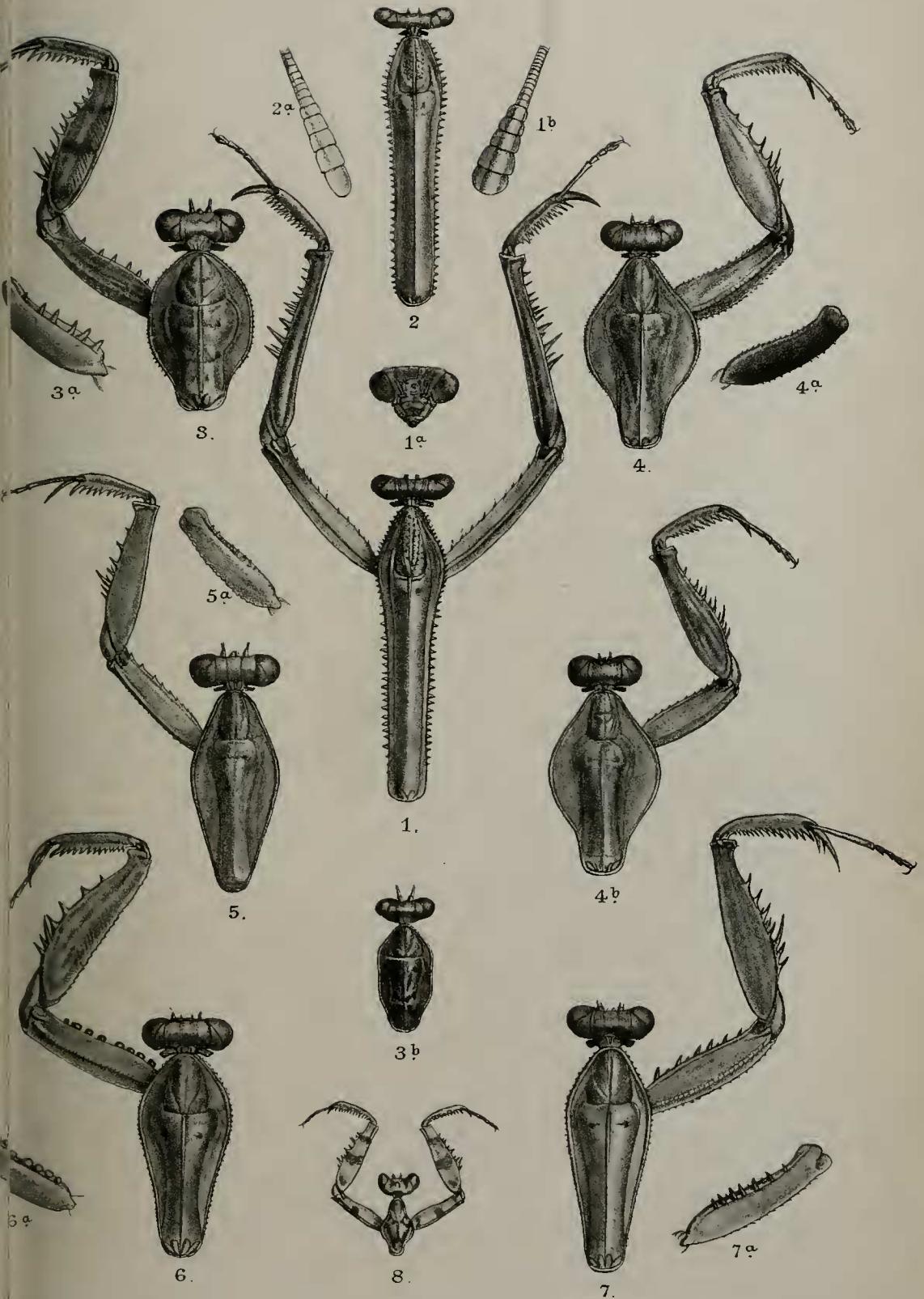
♂ ♀. Very closely allied to *H. (R.) tectiformis*, Sauss., from which it differs in having no projecting spiniform tubercle in the middle of

<sup>1</sup> Bihang till k. Svenska Vet. Akad. Hand. 1877, Bandet iv. No. 10.

<sup>2</sup> I have observed similar structures in the South-African *Chroicoptera vidua*, Stål. All the insects thus provided probably lay their eggs in the earth.







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NEW MANTIDÆ.

Mintern. Bro<sup>s</sup> imp.



the superior margin of the facial shield, in having the lamellar expansions of the pronotum arcuate in outline, and consequently broader postero-laterally, and not angulate antero-laterally—in its more pointed tegmina, the first branch of the discoidal vein of which terminates at the sutural margin in three (♂) or four (♀) branchlets, instead of two and three respectively; the last branch of the median vein is undivided; and the stigma is bounded at either end by a dark blotch, is larger, and commences as much before the origin of the third branch of the discoidal vein as it does after it in the allied species,—in the armature of the fore coxæ, the anterior crest of which is furnished with five blunt and slightly curved conspicuous conical spines, arranged 3 + 2, and all arising from its inner side and not from its summit, the outer crest of which is only smoothly and obscurely denticulate—and in the coloration of the fore femora, which are transversely trifasciate externally, and have no conspicuous red blotch at the base of the inner face.

The fore tibiæ have thirteen teeth (♂ ♀) on the inner, and ten (eleven on one side in one ♀) on the outer edge.

The pronotum of the male is faintly constricted behind the setting-on of the fore legs; so that when viewed from above its lamellar margins appear slightly excised.

Total length, ♀ 72–82 millims.; length of pronotum, ♀ 20·5–22·25, ♂ 15·25; greatest breadth of pronotum (at the anterior end of its posterior lobe), ♀ 11·75–13·75, ♂ 7·75; breadth of primitive pronotum at dilatation, ♀ 8·5–10·75, ♂ 6; length of tegmina, ♀ 62–69, to stigma ♀ 19–22; breadth of tegmina, ♀ 22, of marginal field, ♀ 5·5; length of stigma, ♀ 5–6, ♂ 4·7; breadth of stigma, ♀ 1·3, ♂ 0·9.

*Hab.* The neighbourhood of Samaguting, Naga Hills, Assam, whence a specimen of the female was sent to me some years ago by my late friend Captain John Butler, the Political Agent, after whom I name it. A second and smaller specimen of the same sex has recently been obtained by Mr. A. W. Chennell, of the Indian Topographical Survey, in the valley of the Um-thana, W. Khasi Hills, at about 15,000 feet elevation. But the only male I have ever seen is a much mutilated and abnormally small insect from Sikkim in the collection of Mr. F. Moore.

*Obs.* The species differs in the form of the pronotum from *H. tectiformis* much in the same way as *H. deflexa*, Sauss., does from *H. laticollis*, Burm., Sauss.

The lamellar front margin of the tegmina is entire.

**HIERODULA (RHOMBODERA) FRATRICIDA, n. sp.** (Plate XXXVI. figs. 5, 5 a.)

♂. Allied to *H. (R.) macropsis*, Giebel, which it closely resembles in the form of the pronotum, but from which it differs in its larger size, in having the primitive pronotum apparently longer and stouter, the facial shield higher than broad and distinctly bicarinate, and in having the anterior crest of the fore coxæ rather lower and blunter (than usual) than produced and lamellar.

The organs of flight are long and rather pointed, extending, when closed, far (nearly a fourth of their length) beyond the extremity of the abdomen. The tegmina are hyaline everywhere except in the marginal field and along a very narrow linear space next to the principal nervure, between the base of the organ and the stigma, in which parts they are opaque green; the median vein gives off two branches; and the first branch of the discoidal is forked; the stigma is placed just after the origin of the third branch of the discoidal vein. The wings are throughout hyaline, save the marginal area, which is a little clouded with green; the discoidal vein is three-branched.

The front crest of the fore coxæ armed with ten to eleven low blunt tubercles, which become successively higher and sharper towards the distal end of the joint; and the external crest is quite smooth; the tibiæ have ten to eleven teeth on the outer edge, and 14 on the inner; the superior margin of the femora is slightly arcuate. The edges of lamellar margins of pronotum quite smooth.

Total length 85 millims.; length of pronotum 28, greatest breadth of pronotum 13·25; breadth of primitive pronotum at dilatation 8; length of abdomen 31+6 (last ventral segment)=37; length of tegmina 76, to stigma 20; width of tegmina 19, of their marginal field 5·25; length of stigma 4, breadth of stigma 0·9; length of antennæ 50.

*Hab.* The records of the British Museum state that the specimen was received in a collection of insects from Malabar.

*Obs.* The lamellar front margin of tegmina entire.

*HIERODULA (RHOMBODERA) ATRICOXIS*, n. sp. (Plate XXXVI. figs. 4, 4 a, 4 b.)

♂ ♀. Very closely allied to *H. (R.) laticollis*, Burm., from which it differs in having the lamellar expansions of the pronotum absolutely narrower, concave instead of straight postero-laterally, and not extended quite so far towards the base of the segment, and in having *the whole inner surface of the fore coxæ coloured jet-black*, and the hinder end of the prosternum and the mesosternum symmetrically marked with the same colour.

The anterior crest of the fore coxæ armed with minute blunt denticles and granules; tibiæ with eleven teeth (♂ ♀) on the outer edge, and ♀ 15, ♂ 14 on the inner.

Sexual differences the same as in the allied species.

Total length, ♀ about 80 millims.; length of pronotum, ♀ 27, ♂ 25·5, of which the anterior lobe is respectively, ♀ 8 and ♂ 7; greatest breadth of pronotum, ♀ 16, ♂ 15; breadth of primitive pronotum at supracoxal dilatation, ♀ 9·5, ♂ 9; length of tegmina, ♀ 50, ♂ 64, breadth of tegmina, ♀ 20, ♂ 19·5, breadth of marginal field, ♀ 6, ♂ 5; length of fore coxa, ♀ 18, ♂ 17; femur, ♀ 22, ♂ 20; of intermediate femur, ♀ 19, ♂ 18; tibia, ♀ 17, ♂ 15; of posterior femur, ♀ 22·5, ♂ 21·5; tibia, ♀ 23·5, ♂ 23.

*Hab.* ♀, Australia (*C. French*); ♂, one of the islands in Torres Straits (*MacFarlane*).

*Obs.* With the exception of the Indian *H. (R.) tectiformis*, which

has a great shining red blotch at the base of each of the femora, this is the only species of the genus which has any part of the internal face of the fore legs conspicuously coloured<sup>1</sup>.

The lamellar fore margin of the tegmina is toothed<sup>2</sup> in both sexes, probably so as to act as a stridulating organ by scraping against the corresponding part of the wings.

**HIERODULA (RHOMBODERA) PUSTULIFERA**, n. sp. (Plate XXXVI. figs. 6, 6 a.)

♀. Allied to *H. (R.) major*, Sauss., but differing in its stouter and broader pronotum, which is more broadly rounded off in front, in the armature of the anterior crest of the fore coxæ, which is furnished with eight hemispheroidal yellow tubercles or callosities, all arising from its inner surface, gradually increasing in size from the proximal to the middle, and then gradually decreasing to the distal end of the joint, and constricted at the base so as closely to resemble the crushing-teeth of certain fossil fishes (*Pycnodus*).

The discoidal nervure of the wings emits four branches.

The fore tibiæ have eleven teeth on the outer edge and fifteen on the inner.

Total length 85 millims.; length of pronotum 29, greatest breadth of pronotum (just behind coxal groove) 12·5, of primitive pronotum at supracoxal dilatation 10, at middle of posterior lobe 6; length of tegmina 57, to stigma 21; breadth of tegmina 24, of marginal field 8; length of stigma 3, breadth of stigma 0·9.

Described from two alcoholic specimens.

A dried specimen in British Museum obtained at the same time measures total length 80 millims., and has the coxal callosities shrunken or less developed.

*Hab.* One of the islands in Torres Straits. The specimens were obtained by the Rev. M'Farlane.

*Obs.* The lamellar fore margin of the tegmina toothed.

**HIERODULA (RHOMBODERA) TAPROBANÆ**. (Plate XXXVI. figs. 7, 7 a.)

*Hierodula taprobanæ*, Wood-Mason, Ann. & Mag. Nat. Hist. 1878, 5th ser. vol. i. p. 146, ♀.

*Hab.* Ceylon.

*Obs.* The lamellar fore margin of the tegmina is smooth.

**ARCHIMANTIS MONSTROSA**, n. sp. (Plate XXXVI. figs. 1, 1 a, 1 b.)

*Mantis monstrosus*, Bates, MSS., in coll. Brit. Mus.

♀. Closely allied to *A. armata*, W.-M., ♀, differing in its greater size, in its proportionally longer tegmina (which are fully equal to the prothorax in length), in the form of the pronotum (which is dilated at the setting-on of the fore legs, so as to be conspicuously

<sup>1</sup> These coloured femora serve, in all probability, to allure or fascinate the prey.

<sup>2</sup> I first met with this curious structure of the tegmina in the *Empusidæ*, in all of which it occurs in both sexes alike.